

ABSTRACT

A new Insulated-Gate Field-Effect Thin Film Transistor (Gated-FET) is disclosed. A semiconductor Gated-FET device comprises a lightly doped resistive channel region formed on a first semiconductor thin film layer; and an insulator layer deposited on said channel surface with a gate region formed on a gate material deposited on said insulator layer; said gate region receiving a gate voltage having a first level modulating said channel resistance to a substantially non-conductive state and a second level modulating said channel resistance to a substantially conductive state.

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